

## SYSTEM AND METHOD FOR DETERMINING INTERNET ADVERTISING STRATEGY

### FIELD OF THE INVENTION

This invention relates to internet communication, and more particularly to commercial and advertising analysis.

### BACKGROUND AND SUMMARY OF THE INVENTION

In conventional advertising, it has often proven important to be able to estimate the “reach” of an advertising campaign or effort, which represents the number of people who will be reached by the campaign. This applies whether the advertisement is in the print media, on broadcast, on a billboard, or any other medium. Advertising agencies seek to assist advertisers who are investing in advertising campaigns to maximize the effect of their investment. A campaign typically involves several different media outlets, whether or not within the same type of media. An advertiser generally wishes to know how many people will be reached via each outlet, and at what cost per person reached.

Traditional advertising efforts generally seek to quantify and measure audience. A common measure of advertising exposure to a target group is Gross Rating Points (GRPs). A GRP is defined as Reach (the total number of users exposed to an advertisement) times Frequency (the average numbers of times each user is exposed) for a given advertisement placement or “buy.” Targeted Rating Points (TRPs) are very similar, referring to GRPs for a targeted subgroup, such as a limited age range, gender, geographic region, income, or subcombination of these or other demographic categories. When planning campaigns, traditional marketers also use the concept

of Effective Reach, which is the size of audience reached at a particular frequency (e.g. 100,000 viewers have viewed an advertisement at least three times.)

Advertising on the Internet may employ similar principles. To determine the number and demographics of users of a website on which advertisements may be placed, research entities  
5 (analogous to television ratings services) collect such data. This enables advertisers (or agencies working on their behalf) to determine how many potential users may be reached on each site under consideration. Prospective advertising campaigns can be evaluated based on data from past campaigns. During a past campaign, for example, 100,000 advertising  
“impressions” on a particular web site may have been served. When each was served, a  
10 “cookie” or unique identifier associated with the user’s computer or other communication device is collected. The data regarding the collected cookies is then analyzed to determine how many different users were served. The number of users is less than the number of ads served, due to some more frequent users receiving more than one advertisement.

This analysis provides an estimate useful for comparison, although it discounts that some  
15 users may use different devices (thus appearing in the calculation as different cookies), while some duplicate cookies may be due to different users sharing a common device. Sites vary widely in their duplication characteristics. At some sites, a relatively large portion of impressions are viewed by a small minority of dominant users, with the remaining bulk of users being only rare occasional users; at other sites, user activity levels are relatively equal among  
20 the users.

By analyzing the past campaign, an estimate may be made about a prospective campaign. For instance, if 100,000 advertisement impressions served turned out to have reached 50,000 users on a given site, one might estimate that this yield would apply to other campaigns, even  
though those campaigns occur at different times, are of different sizes, and are targeting  
25 different demographic subgroups. A campaign that hopes to reach 100,000 males between ages 16 and 24 based on this data might roughly assume that if such people make up 10% of the

site's users, then 1,000,000 users must be reached, requiring 2,000,000 impressions to be served based on the past history of duplication.

However, basing future assumptions on one snapshot has limitations, and is subject to errors. Errors that overstate the reach of a campaign undermine the credibility of the person making the estimate. Errors that understate the reach lead to over-investment in advertising, purchasing more impressions that were needed to meet marketing goals.

Other disadvantages of the snapshot approach, include the difficulty of factoring in the rate of impressions served. A campaign that shows 100,000 impressions in a day can expect to reach fewer users than a campaign that spreads those impressions out over several weeks. The significance of the factor of rate of impressions is difficult to gauge in a with the snapshot approach.

Additionally, the large number of cookies that are set on browsers that do not accept cookies can lead to dramatic errors in correlating users with cookies. This limitation can create reach estimates that are too high by an order of magnitude.

The present invention overcomes the limitations of the prior art by providing a method of predicting the performance of an Internet advertising campaign by collecting anonymous web-surfing data during the serving of past Internet advertisements to determine the number of impressions served to each user visiting a selected site during a selected interval. The users are grouped into subgroups based on the percentage of impressions served to each subgroup. The service of a selected number of advertisements is simulated by randomly assigning each simulated advertisement to a user based on the number of impressions served. A projected reach value is calculated by determining the number of users to which at least a selected number of simulated advertisements were served.

#### BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a schematic block diagram showing the system according to a preferred embodiment of the invention.